INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2005/000802

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N27/30 G01N27/48 C01B31/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N C01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, INSPEC, COMPENDEX, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PANDURANGAPPA M ET AL: "Homogeneous chemical derivatisation of carbon particles: a novel method for funtionalising carbon surfaces." THE ANALYST. DEC 2002, vol. 127, no. 12, December 2002 (2002-12), pages 1568-1571, XP009049469 ISSN: 0003-2654	1-15, 21-33, 36-39, 59-65, 68-70
Y		40-43, 47-52, 72-74,76
A	the whole document	16-20, 34,35, 44-46, 54-56, 58,66, 67,75

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 June 2005	12/07/2005

Name and mailing address of the ISA	Authorized officer
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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2005/000802

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	WO 02/060812 A (WILLIAM MARSH RICE UNIVERSITY) 8 August 2002 (2002-08-08) page 3, line 30 - page 4, line 6 page 5, line 22 - page 10, line 29 page 15, line 6 - page 17, line 3 page 21, line 28 - page 22, line 10 figures 1,11,12,23	62-68, 70,71 40-43, 47-52, 72-74,76 5,15,21, 22, 29-35, 53,69
X	DELAMAR M ET AL: "Modification of carbon fiber surfaces by electrochemical reduction of aryl diazonium salts: application to carbon epoxy composites" CARBON, ELSEVIER SCIENCE PUBLISHING, NEW YORK, NY, US, vol. 35, no. 6, 1997, pages 801-807, XP004073601 ISSN: 0008-6223	1-3,5-7, 21-25, 27,28, 30-33, 36-38, 62-65, 68-70
A	Section 3.1 'Grafting in aprotic medium'	34,35
X	WILDGOOSE G G ET AL: "Anthraquinone-derivatised carbon powder reagentless voltammetric pH electrodes" TALANTA, ELSEVIER, AMSTERDAM, NL, vol. 60, no. 5, 27 June 2003 (2003-06-27), pages 887-893, XP002321019 ISSN: 0039-9140	1,3-5, 7-15,21, 23,25, 26,59-61
Y A	the whole document	16-18 27, 40-42, 47, 50-52, 54,55, 58,62, 71-73,76
Y A	US 5 223 117 A (WRIGHTON ET AL) 29 June 1993 (1993-06-29) cited in the application column 2, line 67 - column 8, line 14; figures 1,2	16-18 8-15, 42-44, 47-49

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2005/000802

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PANDURANGAPPATA M ET AL: "Physical adsorption of N,N'-diphenyl-p-phenylenediamine onto carbon particles: application to the detection of sulfide." THE ANALYST. MAY 2003, vol. 128, no. 5, May 2003 (2003-05), pages 473-479, XP009049467 ISSN: 0003-2654 the whole document	1,3-5,7, 21,22, 25,27, 28,59,61
X Y	US 3 926 764 A (RUZICKA ET AL) 16 December 1975 (1975-12-16) column 5, line 32 - column 6, line 13 figure 1; example 1	1-5, 7-15,17, 21,22, 59-61 25,26, 54-56
X Y	DE 101 08 539 A1 (DPST BEHNERT GMBH) 12 September 2002 (2002-09-12) paragraph '0008! - paragraph '0012! figures 1,2	1-3,5, 7-15 25,26, 54-56
X A	EP 0 228 969 A (TERUMO CORPORATION) 15 July 1987 (1987-07-15) page 5, line 5 - page 11, line 9	1-3, 7-14,21, 59-61 5,15,22, 29,54-58
P,X	WILDGOOSE G G ET AL: "Abrasively immobilised multiwalled carbon nanotube agglomerates: a novel electrode material approach for the analytical sensing of pH." CHEMPHYSCHEM : A EUROPEAN JOURNAL OF CHEMICAL PHYSICS AND PHYSICAL CHEMISTRY. 17 MAY 2004, vol. 5, no. 5, 17 May 2004 (2004-05-17), pages 669-677, XP002333660 ISSN: 1439-4235 the whole document	1-5, 8-15, 40-42, 45-53, 59-61, 71-73,76

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2005/000802

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WILDGOOSE G G ET AL: "Graphite powder and multiwalled carbon nanotubes chemically modified with 4-nitrobenzylamine." CHEMPHYSCHEM : A EUROPEAN JOURNAL OF CHEMICAL PHYSICS AND PHYSICAL CHEMISTRY. FEB 2005, vol. 6, no. 2, February 2005 (2005-02), pages 352-362, XP002333661 ISSN: 1439-4235 the whole document	1-7, 21-40, 50-53, 62-70

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/GB2005/000802

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 02060812 A	08-08-2002	DE 10295944 T5	15-04-2004
		GB 2389847 A	24-12-2003
		JP 2004530646 T	07-10-2004
		WO 02060812 A2	08-08-2002
		US 2005074390 A1	07-04-2005
		US 2005074613 A1	07-04-2005
US 5223117 A	29-06-1993	WO 9219961 A1	12-11-1992
US 3926764 A	16-12-1975	NONE	
DE 10108539 A1	12-09-2002	NONE	
EP 0228969 A	15-07-1987	JP 1729252 C	29-01-1993
		JP 4014746 B	13-03-1992
		JP 62169043 A	25-07-1987
		JP 62150150 A	04-07-1987
		JP 1712928 C	27-11-1992
		JP 3076862 B	06-12-1991
		JP 62157563 A	13-07-1987
		DE 3689722 D1	21-04-1994
		DE 3689722 T2	06-10-1994
		DK 626986 A	26-06-1987
		EP 0228969 A2	15-07-1987
		KR 8902940 B1	12-08-1989
		US 4798664 A	17-01-1989